

## CLAIMS

1. A gravity hinge assembly for a swinging door, the gravity hinge assembly comprising:

a rotating cam cylinder including a head portion at a first end and a first angled cam surface at a second end, wherein the head portion of the

5 rotating cam cylinder includes a discontinuous raised wall portion defining a seating depression across the head portion;

a stationary cam cylinder including a projecting nipple at a first end and a second angled cam surface at a second end; and

a connection plate adapted to translate rotation of the door to the  
10 rotating cam cylinder, wherein the connection plate includes an interior portion configured in mating relation to the seating depression across the head portion of the rotating cam cylinder such that upon seating the interior portion of the connection plate within the seating depression, the connection plate is substantially prevented from axial rotation relative to the rotating cam cylinder.

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2. The invention as recited in claim 1, wherein the rotating cam cylinder and the stationary cam cylinder are not connected to one another.

3. The invention as recited in claim 1, wherein at least one of the rotating cam cylinder and the stationary cam cylinder comprises a polymeric material.

4. The invention as recited in claim 3, wherein said polymeric material is nylon.

5. The invention as recited in claim 3, wherein said polymeric material includes a friction activated lubricant such that said polymeric material is self lubricating.

6. The invention as recited in claim 5, wherein said friction activated lubricant is molybdenum.

7. The invention as recited in claim 1, further including a wall mounting bracket and wherein the stationary nipple at the first end of the stationary cam cylinder includes a threaded portion projecting away from a polygonal base portion, the polygonal base portion being adapted to fit in anti-rotational relation within an opening across a leg of the wall mounting bracket.

8. The invention as recited in claim 7, wherein the polygonal base portion is square.

9. The invention as recited in claim 1, wherein the connection plate has a scalloped perimeter defining a substantially tri-lobal geometry.

10. A gravity hinge assembly for a swinging door, the gravity hinge assembly comprising:

a rotating cam cylinder including a head portion at a first end and a first angled cam surface at a second end, wherein the head portion of the rotating cam cylinder includes a discontinuous raised wall portion defining a seating depression across the head portion;

a stationary cam cylinder including a projecting nipple at a first end and a second angled cam surface at a second end;

a connection plate adapted to translate rotation of the door to the rotating cam cylinder, wherein the connection plate includes an interior portion configured in mating relation to the seating depression across the head portion of the rotating cam cylinder such that upon seating the interior portion of the connection plate within the seating depression, the connection plate is substantially prevented from axial rotation relative to the rotating cam cylinder; and

a wall mounting bracket including a nipple acceptance opening disposed through a leg projecting away from a mounting wall, and wherein the nipple at the first end of the stationary cam cylinder includes a threaded portion projecting away from a polygonal base portion, the threaded portion being sized to move freely through the nipple acceptance opening and the polygonal base portion being adapted to fit in anti-rotational relation within the nipple acceptance opening.

11. The invention as recited in claim 10, wherein the rotating cam cylinder and the stationary cam cylinder are not connected to one another.

12. The invention as recited in claim 10, wherein at least one of the rotating cam cylinder and the stationary cam cylinder comprises a polymeric material.

13. The invention as recited in claim 12, wherein said polymeric material is nylon.

14. The invention as recited in claim 12, wherein said polymeric material includes a friction activated lubricant such that said polymeric material is self lubricating.

15. The invention as recited in claim 14, wherein said friction activated lubricant is molybdenum.

16. The invention as recited in claim 1, wherein the connection plate has a scalloped perimeter defining a substantially tri-lobal geometry.

17. A gravity hinge assembly for a swinging door, the gravity hinge assembly comprising:

a self lubricating polymeric rotating cam cylinder including a head portion at a first end and a first angled cam surface at a second end,  
5 wherein the head portion of the rotating cam cylinder includes a discontinuous raised wall portion defining a substantially circular seating depression across the head portion;

a self lubricating polymeric stationary cam cylinder including a projecting nipple at a first end and a second angled cam surface at a second end  
10 wherein the nipple at the first end of the stationary cam cylinder includes a threaded portion projecting away from a polygonal base portion; and

a tri-lobal connection plate adapted to translate rotation of the door to the rotating cam cylinder, wherein the connection plate includes an interior portion configured in mating relation to the seating depression across  
15 the head portion of the rotating cam cylinder such that upon seating the interior portion of the connection plate within the seating depression, the connection plate is substantially prevented from axial rotation relative to the rotating cam cylinder.